

5.4 Cultural Resources

This Amendment Petition section addresses the potential impacts of construction and operation of the Amended Project (plant site, injection well pads and pipelines, and borrow site) on cultural resources. Cultural resources are defined as buildings, sites, structures, districts, and/or objects that have historical, architectural, archaeological, cultural, or scientific significance. The transmission lines that will interconnect the Project with the regional electrical grid have already been licensed by the CEC, and the Amended Project proposes no transmission line changes. Thus, the transmission lines are not addressed in this Amended Project cultural resources evaluation.

The following discussion draws on the cultural resources investigations conducted for the original SSU6 project, as well as additional archival research and field surveys conducted in 2008 for the Amended Project. Qualified cultural resources professionals conducted both the original and Amended Project investigations. Additional detail on the 2008 cultural resources assessments prepared for the Amended Project, including personnel qualifications, can be found in the Cultural Resources Technical Report in Appendix G.

5.4.1 Summary of Differences between the Amended Project and Original SSU6

Similar to the original SSU6 project, the Amended Project would not result in significant adverse impacts to cultural resources. Potential impacts to known sites are lower with the Amended Project than with the original project because of the relocation of all production wells to the plant site. The original project would have had the potential for direct impacts to the “Obsidian Butte Lithic Scatter” because of the pipeline leading to the plant site from a production well pad proposed at Obsidian Butte. Because the Amended Project relocates this well pad and pipeline to the plant site, these impacts will not occur. Additional cultural resources surveys conducted in 2008 identified three potential cultural resources (lined water channels referred to as “laterals”) at the new injection well pads and pipelines locations and at the newly proposed borrow site; the Amended Project would not adversely affect these laterals.

The original project was found to have the potential to adversely affect previously unknown cultural resources because of the possibility that previously undiscovered archaeological resources would be exposed during construction activities. However, cultural resources monitoring and other mitigation measures were designed to ensure that any previously unknown resources would be identified and protected during construction. The Amended Project incorporates these measures and therefore would have similar less-than-significant impacts.

5.4.2 LORS Compliance

The Amended Project will comply with applicable LORS throughout construction and operation. Applicable LORS are summarized in Table 5.4-1 and briefly discussed in text immediately following the table.

Table 5.4-1 LORS Applicable to Cultural Resources

LORS	Applicability	Where Discussed In AP
Federal:		
Antiquities Act of 1906, Title 16, U.S. Code Sections 431, 432, and 433	Federal legislation for protection of cultural resources.	Section 5.4.4
National Historic Preservation Act (NHPA), Title 16, U.S. Code Section 470x-6	Protects cultural resources on Federal lands; provides for inventory and assessment of resources.	Section 5.4.2
Archaeological Resources Protection Act of 1979, Title 16, U.S. Code Section 470aa-470mm	Provides protection for archaeological resources on public lands and Indian lands.	Section 5.4.2
Executive Order 11593 of May 13, 1971, 36 Federal Register, Section 8921	Provides for protection and enhancement of the cultural environment.	Sections 5.4.4 and 5.4.5
Native American Graves Protection and Repatriation Act, Title 25, U.S. Code Section 3001-3013	Establishes mechanism for Native Americans to claim ownership of human remains and certain cultural items.	Section 5.4.2
American Indian Religious Freedom Act, Public Law 95-341; Title 42, United States Code Section 1996	Provides protection of Native American religious practices.	Section 5.4.2
State:		
California Environmental Quality Act (CEQA), Public Resources Code Sections 21083.2 and 21084.1	Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts; defines a "historic resources" and describes what constitutes a "significant" historic resource.	Sections, 5.4.4, and 5.4.5
CEQA Guidelines, California Code of Regulations, Title 14, Section 4852, Section 15064.5, Section 15126.4(b)	Defines the term cultural resource; addresses reburial options for Native American remains and provides for treatment of archaeological discoveries; describes mitigation of a projects impact on a historic resource.	Sections, 5.4.4 and 5.4.5
Public Resources Code 5020.1(h), Sections 5024.1 and 5097.98	Defines a "historic district"; establishes the California Register of Historical Resources; discusses procedures to be followed upon the discovery of Native American human remains.	Sections, 5.4.4, and 5.4.5

Table 5.4-1 LORS Applicable to Cultural Resources

LORS	Applicability	Where Discussed In AP
California Health and Safety Code Sections 7050.5 and 8010-8011	Establishes procedures for notification in the event of discovery of human remains. Requires construction to be halted and County Coroner to be contacted if human remains are encountered. Makes it a misdemeanor to disturb or remove human remains found outside a cemetery. Establishes a state repatriation policy consistent with implementation of the Native American Graves and Repatriation Act.	Sections 5.4.4 and 5.4.5
AB 2641	Modifies the process that private landowners follow after discovering Native American human remains (set forth in California Public Resources Code 5097.98).	Sections 5.4.4 and 5.4.5
Local:		
Imperial County General Plan Conservation and Open Space Element	Objective 3.1 provides direction to protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Sections 5.4.4, and 5.4.5
Imperial County General Plan Land Use Element	Includes guidance to “preserve the unique natural and cultural resources of the Imperial Valley as a region.”	Sections 5.4.4 and 5.4.5
Imperial County General Plan Geothermal/Alternative Energy and Transmission Element	Requires that the design, siting, and operation of geothermal facilities give adequate consideration to potential direct and indirect environmental impacts pursuant to CEQA.	Sections 5.4.4 and 5.4.5

5.4.2.1 Federal LORS

Antiquities Act of 1906, Title 16, United States Code Sections 431, 432, and 433

This Act establishes the early framework for Federal protection of cultural resources.

National Historic Preservation Act, Title 16, United States Code Section 470x-6

The National Historic Preservation Act (NHPA) sets in place a program for the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take into account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places). It also gives the Advisory Council on Historic Preservation and State Historic Preservation Offices (SHPO) an opportunity to consult. Section 106's implementing regulations are found at 36 CFR §§ 800 et seq. Federal agencies issuing permits for the Amended Project will be required to comply with NHPA requirements.

Archaeological Resources Protection Act of 1979, Title 16, United States Code Section 470aa-470mm

This Act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

Executive Order 11593 of May 13, 1971, 36 Federal Register, Section 8921

This Executive Order focuses on the protection and enhancement of the cultural environment. It outlines responsibilities of the Federal agencies and Secretary of the Interior with regard to cultural resources.

Native American Graves Protection and Repatriation Act, Title 25, United States Code Section 3001-3013

This law provides for ownership of Native American graves and grave goods on Federal lands.

American Indian Religious Freedom Act, Public Law 95-341; Title 42, United States Code Section 1996

This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. This law would apply since the Amended Project includes Federal land. Federal agencies issuing permits for the Project would be required to comply with this Act if Native Americans identified issues regarding their right to exercise traditional religious practices.

5.4.2.2 State LORS

California Environmental Quality Act (CEQA), Public Resources Code Sections 21083.2 and 21084.1

Section 21083.2 states that it is the responsibility of the lead agency to determine whether the project will have a significant effect on “unique” archaeological resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria: 1) contains information needed to answer important research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest or best example of its type; or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person. Section 21084.1 identifies that a project may have a significant effect on the environment if it causes substantial adverse change in the significance of a historic resources. This section of the code also defines a “historic resource” and describes what constitutes a significant historic resource.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

CEQA Guidelines, California Code of Regulations, Title 14, Section 4852 and Section 15064.5

CCR Section 4852 defines the term cultural resource to include buildings, sites, structures, objects, and historic districts. Per Section 15064.5, when initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the

appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The Applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC.

Public Resources Code Section 5020.1(h)

This section defines a historic district. A "historic district" means a definable unified geographic entity that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Public Resources Code Section 5024.1

This section establishes the California Register of Historical Resources (CRHR). A resource may be listed as a historical resource in the CRHR if it meets National Register of Historic Places criteria or the following state criteria: (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) is associated with the lives of persons important in our past; (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (4) has yielded, or may be likely to yield, information important in prehistory or history. The CRHR is an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected from substantial adverse change.

Public Resources Code Section 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

California Health and Safety Code Sections 7050.5 and Sections 8010-8011

Code section 7050.5 establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains. Code Sections 8010-8011 establishes a State repatriation policy consistent with the implementation of the Native American Graves and Repatriation Act. The code extends policy coverage to non-federally recognized tribes as well as federally recognized groups

5.4.2.3 Local LORS

Imperial County General Plan

Conservation and Open Space Element

Goal 3 provides for the preservation of cultural resources, stating that "Important prehistoric and historic resources shall be preserved to advance scientific knowledge and maintain the traditional historic element of

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the Imperial Valley landscape.” In addition, Objective 3.1 of the goal specifies that sites of archaeological, ecological, historical, and scientific value, and/or cultural significance are to be preserved and protected.

Land Use Element

The intent of the County in preparing the Land Use Element is to maintain and promote agricultural enterprises, determine appropriate urban development centers and encourage their economic development, protect the existing character of rural and recreational communities and areas, and preserve the unique natural and cultural resources of the Imperial Valley as a region.

Geothermal/Alternative Energy and Transmission Element

This element of the General Plan also requires that the design, siting, and operation of geothermal facilities give adequate consideration to potential direct and indirect environmental impacts pursuant to CEQA. With respect to linear facilities, proper cultural resource surveys and careful corridor alignment can minimize these impacts and stringent accidental finds and artifact recovery plans can further limit impacts. However, impacts to some historic landscapes may be unavoidable.

5.4.2.4 Involved Agencies

As indicated in Table 5.4-2, the NAHC was contacted regarding a check of their sacred sites inventory and to acquire a list of Native American contacts for the area. See Section 5.4.2.5 for additional information regarding Native American contacts.

Table 5.4-2 Agencies Contacted

Agency Contacted	Phone/E-mail	Permit/Issue
David Singleton Native American Heritage Commission 915 Capital Mall, #364 Sacramento, CA 95814	(916) 653-6251 nahc@pacbell.net	Native American cultural issues

5.4.2.5 Permits Required and Permit Schedule

The Amended Project does not require permits, other than CEC certification, for cultural resources.

5.4.3 Affected Environment

The Amended Project is situated in central Imperial County, California, approximately 7.5 miles southwest of Niland, approximately six miles northwest of Calipatria, and approximately 0.5 mile southeast of Obsidian Butte. A records search conducted for the Project focused on a one-mile study area surrounding the plant site and injection well pads, and 0.25-mile on either side of the linear facilities. The Area of Potential Effects (APE) for cultural resources was defined to include the plant site and injection wells plus a 200-foot buffer and the injection pipeline ROW plus 50 feet on either side of the ROW. The plant site and linear facilities were subjected to a pedestrian archaeological survey as part of the original SSU6 project (CEC 2002). The earlier investigation was supplemented by additional archival research and field work to update the earlier

work and cover areas not previously included (e.g., new injection well pads and pipeline routes, new borrow area). Amended Project facilities are located mainly within agricultural lands.

Information in this section draws on several existing sources including the original SSU6 investigation and more recent literature research and field work.

5.4.3.1 Natural Setting

Physical Environment

The Amended Project area is within the Colorado Desert (Salton Trough) environmental zone and is bordered on the west by the Peninsular Range and to the east by the Mojave Desert. The Colorado Desert consists of a depressed area 80 miles long and 30 miles wide, situated between two forks of the San Andreas Fault. Elevations in the trough range between 19 feet to 245 feet below sea level. Prehistorically, much of this area was under the waters of Lake Cahuilla. The Colorado River filled the entire basin periodically with fresh water to form the expansive lake, which measured as much as 34 miles wide and 321 feet deep. These wet periods were followed by times when the Colorado River did not flow into the area, and the waters of Lake Cahuilla evaporated. Today, the only remnants of Lake Cahuilla are the playa surfaces and beach terraces surrounding the Salton Sea (Moratto, 1984:18).

The Colorado Desert is defined by a Lower Sonoran life zone, which is characterized by low rainfall, hot summer temperatures, and low humidity. In the low valleys, summer temperatures average between 100°F to 118°F in the shade. Plants common to this zone include the goosefoot family (*Chenopodiaceae*), creosote bush (*Larrea divaricata*), mesquite (*Prosopis juliflora* var. *torreyana*), saltbush (*Atriplex* sp.), and cactus (*Cactaceae*). Animal life includes jackrabbit, bobcat, coyote, rodents, birds, and reptiles (Moratto, 1984:22-23, 342; Ornduff, 1974:56).

Geology

Geologic deposits within the Salton Trough are primarily alluvium, dune sand, Pliocene marine, Pleistocene and Quaternary non-marine terrace deposits, and Tertiary and Quaternary lake deposits, composed primarily of sand, gravels, silts and clays, or sandstones. The Pleistocene non-marine sedimentary deposits that form the Superstition Hills and areas south and west of the Salton Sea are composed of older alluvium and conglomerate, and sandstones of the Brawley formation. These deposits are mostly capped with well-developed desert pavement and desert varnish (State of California, 1962, 1967).

In areas with mostly alluvial deposits, like the Salton Trough, lithic resources are extremely limited. Materials suitable for prehistoric stone tool manufacture were quarried from the obsidian, rhyolite, and silicified sediment (Wonderstone) deposits at Obsidian Butte near the southern end of the Salton Sea or were found as float in the desert pavements and gravel deposits. These float materials may include quartz, silicified wood, cryptocrystalline silicates (cherts, chalcedony, and jasper), quartzite, basalt, and other volcanic rocks. Sandstone from the Brawley and other formations was used prehistorically to manufacture metates, manos and pestles (grinding stones). Granite from deposits at Superstition Mountain or found as float was also used in the manufacture of grinding stones.

5.4.3.2 Prehistory

While the Colorado Desert is rich in prehistoric archaeological sites and has been intensively studied by archaeologists for 80 years, the culture-historical framework for the ordering and interpretation of archaeological materials is still heavily reliant on interregional comparisons. To a large degree, this results from the fact that sites with substantial subsurface components are quite rare and this paucity has hampered chronology building (Schaefer, 1994a, 1994b). Alternatively, the site assemblage of the Colorado Desert is particularly diverse when it comes to sites associated with what might generally be termed ritual events. In addition to the remains of Native American habitations and resource procurement activities, there are abundant earth figures and shrines, petroglyphs and pictographs, and an exceptionally well-preserved trail system (Altschul and Ezzo, 1994; Cachora, 1994; Johnson, 1985; McGuire and Schiffer, 1982; Pendleton et al., 1986; Pignuolo et al., 1997; Rogers, 1939; Schaefer, 1994a, 1994b; von Werlhof, 1987). This diversity has the potential to provide insight into a broad array of cultural behavior, including ceremonial and ritual practices, as well as the evolution of settlement and subsistence systems (Cleland and Apple, 2003).

The poor chronological control is reflected in the existing culture-historical framework, which is characterized by a good bit of overlap in the material culture assemblages of seriated archaeological complexes. As a result, many types of artifacts and features are said to be typical of assemblages that range from the earliest times right up to the contact period (McGuire and Schiffer, 1982). This framework then, which developed out of the pioneering archaeological work of Rogers (1939, 1945), remains somewhat problematical despite numerous updates. For the purposes of this study, regional prehistory will be discussed within the context of three broad periods: Early, Archaic, and Late Prehistoric/Protohistoric.

Rogers (1939) first described the San Dieguito Complex of the southern California deserts based on surface surveys of the southern California coastal and desert areas. The typical San Dieguito assemblage consists of heavy percussion, core and flake-based tools; crescentics; and domed and keeled choppers, planes, and scrapers. One also finds light-percussion flaked spokeshaves, leaf-shaped projectile points, and (in the desert areas) large, stemmed Lake Mojave and Silver Lake projectile points. Fluted points are also occasionally found on Lake Mojave-San Dieguito surface sites. Milling equipment is apparently rare or absent (Warren and Crabtree, 1986:184). Subsistence is generally thought to have been focused on highly ranked resources such as large mammals, although numerous small mammals were also taken at some sites. This subsistence strategy may have encouraged a pattern of relatively high residential mobility.

Little information exists for the Colorado Desert during the Archaic period between the San Dieguito I and the Patayan complex. Rogers (1945) suggests that there are no sites away from the Colorado River between these two periods. This absence is a key regional research issue (Schaefer, 1994b). For example, surveys of the 80-mile North Baja Pipeline east of the Chocolate Mountains failed to yield a single site with clear evidence of Archaic period occupation (Cleland and Apple, 2003), other than rock art that appears to have Archaic cultural affiliations (Hedges, 2003). Studies by Weide (1976) have reported a few isolated artifacts that date to this intermediate period and suggest that there were sparse inhabitants in the region during this period. Isolates include a quartz point radiocarbon dated to 3030 +/- 100 B.C., the Truckhaven cairn burial with a date of 3840 +/- 250 B.C., and a preceramic occupation along the old Lake Cahuilla shoreline dating to A.D. 370 (Moratto, 1984:404). Pendleton and others (1986) remarked that only two Archaic period projectile points were known to have been found between the Imperial Sand Dunes and the Colorado River, a distance of some 24 miles (40 km). Schaefer's (1986) intensive investigations for the Mesquite Mine on the southern bajada of the Chocolate Mountains likewise did not recover any materials

temporally diagnostic of the Archaic. Similarly, none of the radiocarbon-dated roasting pits in Inkopah Gorge on the eastern slope of the Peninsular Range were from the Archaic period (Shackley, 1984). Potential Archaic period use of Lake Cahuilla remains problematical; surveys of the former Salton Sea Test Base did produce San Dieguito and possible Archaic period bifaces, but these surface finds were not clearly associated with archaeological assemblages. The Indian Hill rockshelter (McDonald, 1992) in Anza Borrego Desert State Park is one of the few well-dated Archaic sites in the regional study area. Archaic period sites have also been found in subsurface contexts in the Coachella Valley.

The Patayan complex, dating from approximately 1450 B.P. (A.D. 500) to the historic period, spans the late prehistoric and protohistoric timeframes, the latter of which includes a 300-year period of sporadic exploration and colonization that left aboriginal lifeways relatively unaffected. The Patayan complex is characterized by marked changes in the artifact assemblage, economic system, and settlement patterns. Paddle and anvil pottery was introduced, possibly from Mexico (Rogers, 1945; Schroeder, 1975, 1979). During this time, floodplain horticulture, featuring maize, beans, squash, and other crops, was introduced along the lower Colorado River and extended to the New and Alamo rivers in Imperial Valley. The bow and arrow was also introduced during this period as evidenced by the presence of Cottonwood Triangular and Desert Side-notched series projectile points. Cottonwood series projectile points apparently predate the Desert Side-notched series and probably the advent of pottery. Also during the Late period, burial practices shifted from inhumations to cremations. Other culture traits generally associated with this period include increasingly elaborate kinship systems, rock art including ground figures, and expanded trading networks (McGuire and Schiffer, 1982).

The Late period is broken down into three ceramic phases – Patayan I, II, and III (Rogers, 1945; Waters, 1982a, 1982b). Patayan I ceramics are well developed, indicating that ceramic technology was introduced in a fully developed form. However, the relationship of Lower Colorado River buffwares with Hohokam and other southwestern ceramic traditions remain to be established with greater clarity. Tizon brownware, representative of a related interior ceramic tradition, may predate Lower Colorado buffware (Warren, 1984:423). Patayan I (ca. A.D. 600 to A.D. 1000) wares are found most frequently along the river corridor, while Patayan II (ca. A.D. 1000 to A.D. 1500) types are typically found both on the river and along the former Lake Cahuilla shoreline. Patayan III ceramics represent the Protohistoric period and are rare on Lake Cahuilla shorelines. Recent evidence from the North Stallard site, a stratified Patayan site on the Colorado River (Cleland and Apple, 2003), suggests that certain types of buffware may have longer use periods than is recognized by this serration (Hildebrand, 2003).

During the Late period, at least four, probably more, sequential inundations of the Salton Trough occurred as the Colorado River was diverted to the west and filled much of Imperial Valley to an elevation of 40 feet (12.8 m) above sea level. Four major stands of Lake Cahuilla occurred between A.D. 1200 and A.D. 1540 and at least one partial in-filling seems to have occurred during the 17th century. The final desiccation of Lake Cahuilla at perhaps A.D. 1650 (Schaefer, 1994b:84) is thought to have caused major population disruptions on both east and west sides of the Colorado Desert, large population shifts along the lower Colorado River, and perhaps contributed to the persistent warfare that continued until 1857 along the lower Colorado and Gila rivers (Aschmann, 1966:245; Castetter and Bell, 1951:30; O'Connell, 1971:180; Schaefer, 1994b:72-73; Stone, 1981; M. Weide, 1976:89; White, 1974; Wilke, 1974). However, the role of the desiccation cycles in these population perturbations is far from clear and it remains an important topic for further research. By the time of the final desiccation, horticulture was well established along the lower Colorado (Bee, 1981:12; Castetter and Bell, 1951:74-75).

5.4.3.3 Ethnographic Background

Ethnography

Ethnographic summaries of the Native American groups associated with the regional study area are presented below. It should be noted at the onset that native boundaries were fluid and indistinct, particularly in areas on the periphery of a group's territory or areas that contained few resources. Most of these groups speak languages of the Yuman family of the Hokan language stock. Included in this group are the Kamia, Quechan, Halchidhoma, and Mojave (Kroeber, 1920; Shipley, 1978:86).

The Kamia are one of three closely related Native American tribes living in southern California, who are differentiated on the basis of dialect differences (Langdon, 1970, 1975; Luomala, 1978; Spier, 1933) and geography (Barker, 1976; Gifford, 1931). These are known today as the Northern Kumeyaay or Ipai, the Southern Kumeyaay or Tipai, and the Desert Kumeyaay or Kamia (see Figure 5.6-1). The term Kamia has been used by some authors to refer to all three divisions (e.g., Forbes, 1965) but now is most commonly used to refer only to the desert division. The word Kamia is a lower Colorado variant of the term Kumeyaay. The Quechan call the coastal Kumeyaay *Kamya ahwe*, while the Mojave call them *Kamia ahwe* or *Kamia ahkwe*, which means remote or foreign Kamia (Kroeber, 1920:478).

The Kamia traditional territory included what is now known as the southern Imperial Valley from the latitude of the southern half of the Salton Sea, to perhaps 40 miles (64 km) below the international border. On the west, Kamia territory extends to the foothills of the Peninsular Mountains, and to the east, Kamia territory extends up to the Chocolate Mountains (Forbes, 1965; Luomala, 1978:593). They lived at times along the west bank of the Colorado River, but their main settlements were along the New and Alamo rivers in Imperial Valley.

Subsistence among the Kamia consisted of hunting and gathering and floodplain horticulture (Barker, 1976; Gifford, 1931). In normal years, the Colorado River would overflow its banks in the spring and early summer. This would also fill the New and Alamo rivers. These branch off the Colorado a few miles south of Pilot Knob and the international border, head west for a time, and then cross into the United States again and trend north. Today, they terminate in the Salton Sea. When the spring floodwater receded, the Kamia would plant in the mud. A dam was maintained at *Xatopet* on the east/west portion of the Alamo River to control water flow and allow farming in years when water flow was low. Likewise, small dams and ditches (*acequias* in Spanish) used to irrigate crops were also reported in the vicinity of Algodones/Pilot Knob (Castetter and Bell, 1951:43). Gifford (1931:22) and Castetter and Bell (1951:43) suggested these were recent adaptations and not traditional. Bean and Lawton (1973), Lawton and Bean (1968), and Shippek (1988) argue that irrigation was indigenous.

A major food staple was mesquite and screwbean, called by the Kamia *anxi* and *iyix*, respectively (Gifford, 1931:23). These were sometimes eaten fresh off the tree in early summer, but primarily, the pods were collected from the ground or shaken from the trees in July. These were pounded into flour in a mortar typically made of a cottonwood tree trunk (Gifford, 1931). The seeds, which have the appearance and density of birdshot, were discarded (Castetter and Bell, 1951). Seeds of the ironwood were gathered off the ground in October and dried, then parched, ground lightly on a metate to break the seeds apart, then leached to remove the bitter taste. Acorns were at times an important food. They were gathered in the mountains to the west of Kamia territory in October and also acquired through trade from the southern Kumeyaay.

Hunting contributed to the diet in a minor way in terms of overall caloric intake but provided valuable protein, and skins and bone for clothing, blankets, and tools. Small game, primarily rabbits, was most frequently taken using bow and arrow or rabbit stick (*macana* in Spanish). Fish were also taken in sloughs with bow and arrow, by hand, hooks, basketry scoops, and seine nets.

The primary settlements of the Kamia were scattered along the New River and the Alamo River (Barker, 1976:25; Gifford, 1931:5). These were not compact villages, but large diffuse *rancherías* and planting areas dispersed along the rivers. The flow in the Colorado River varied widely from year to year and the Kamia frequently adjusted their settlement locations to be in areas with good water availability. The Kamia may also have utilized the southern shores of Lake Cahuilla when present, and this would have put seasonal settlements within proximity of the Black Rock Project.

Structures varied depending on the locality, purpose, and the availability of raw materials. Summer dwellings were often minimal, consisting of only a windbreak. Caves were also used at this time, where available. Structures found within mountain oak groves were more substantial and often had platform-supported granaries, while winter villages were located at lower elevations in sheltered areas. A typical shelter had a sunken floor and was dome- or gable-shaped with a with-tied pole framework with thatch, covered with grass and earth. The dome-shaped dwellings usually had two small arched entries at opposite ends that were placed to avoid the wind. The gables had a rectangular-shaped opening that faced east, which was a ritual direction. Attached to dwellings was a windbreak made for outdoor activities and cooking during the summer (Luomala, 1978).

North of the Kamia were the Desert Cahuilla, with whom the Kamia did not have a great deal of interaction. To the east were the Quechan, with whom the Kamia typically enjoyed excellent relations. The Kamia neighbors to the south in the late 19th century were the Cocopah, with whom the Kamia were often at war. The Cocopah lived in Baja California in the Colorado Delta area. To the west of the Kamia, along the coast and in the mountains of San Diego County and northern Baja California Norte, were the close relatives of the Kamia, the Kumeyaay. They carried on a lively trade with one another and had strong social, kinship, and economic ties. Items such as salt, dried seafood, and abalone shells from the coast were often traded for inland items such as acorns, agave, mesquite, granite for pestles, steatite for arrow straighteners, minerals for paint, and gourds (Cuero, 1968:33 in Luomala, 1978:601-602).

Ethnohistory

Despite early explorations beginning in the 16th century by the Spanish into California, Euro-American settlement was delayed in the regional study area until the mid-19th century. Early explorers, such as Francisco de Ulloa (1539), Hernando de Alarcon (1540), and Francisco de Coronado (1540) led expeditions into the Gulf of Mexico, reaching the mouth of the Colorado River and continuing up the river past the Gila confluence. However, little exploration of the interior deserts was undertaken until much later. Spanish exploration for the next 200 years was intermittent in this area, as it was considered remote and difficult to access.

5.4.3.4 History

The first recorded explorer of the interior Colorado Desert region was Father Eusebio Francisco Kino, a Jesuit missionary, cartographer, and explorer. Starting in 1691, Kino established a string of missions in northern Mexico and southern Arizona, finally reaching the Colorado River in 1702. Kino followed the

Colorado River to the delta. His conception of an overland route through the desert to Monterey (Mexico) to access the Manila galleon trade was rejected by officials in Mexico City, who felt that the idea was too risky and that resources could be better spent elsewhere (Rice et al., 1996; Lavender, 1972).

Almost 70 years later, Father Francisco Garcés followed Kino's route, reaching the villages of the Quechan Indians at the junction of the Gila and Colorado rivers in 1771. Garcés' party crossed the Colorado River and traveled west through the desert until the San Jacinto Mountains were visible in the distance, before returning to Sonora. Three years later, Father Garcés and a Spanish border captain named Juan Bautista de Anza attempted an overland route to Monterey. When they reached the Colorado River, Anza found the local Yumans friendly. Anza and Garcés left some of their supplies behind with a small guard and crossed the desert to the west, eventually crossing the San Jacinto Mountains by way of a small canyon. On March 1774, Anza's party reached Mission San Gabriel. Because of a shortage of supplies, most of the party, including Garcés, turned back while Anza continued on to Monterey, California (Rice et al., 1996). The following year, Anza led 240 emigrants and soldiers, along with their livestock, into Northern California, where they became the first European settlers of San Francisco. This emigration established the beginnings of the Desert Trail across Imperial Valley. In 1781, the Spanish settlements along the Yuman Crossing of the Colorado River were destroyed by Quechan Indians, and the Spanish abandoned the route through the Colorado Desert (Bean and Rawls, 1983:34-35; Rolle, 1969:87). The trail was not used again until 1826, when engineer Lieutenant Alferez Romualdo Pacheco from Mexico established the Desert Trail as an official mail route. Lieutenant Pacheco and his soldiers established a fort, about 6 miles (9 km) west of Imperial, which was later abandoned and fell into ruin.

In the 1800s, most travel from Arizona to San Francisco by Mexican soldiers, and later, American settlers, followed Anza's route. Several southern routes across the Colorado Desert were established by Mexican soldiers and American settlers during the 1820s. The trail across the Imperial Valley opened by Anza, and followed by later generations of explorers, trappers and eventually by settlers from the east coast, is known by many names, including the Sonora Road, the Colorado Road, the Emigrant Trail, and the Butterfield Stage Route. The Butterfield Stage Route, used from 1858-1861, was most likely the first distinct path across the Imperial Valley (Hoover et al., 1990:108). In the 1880s, the Old Kane Spring Road between Julian and Kane Springs became a popular route between Imperial Valley and the western mountains (Schaefer et al., 1987).

From the 1840s through the 1880s, the U.S. cavalry established a series of camps and forts through the Arizona, Nevada, and California deserts to protect settlers and immigrants from the hostile tribes. One of the earliest of these was Camp Calhoun, established in 1849 by the Americans on the banks of the Colorado River near present-day Yuma. In 1855, the name was changed to Fort Yuma. Following the establishment of forts through the area, the California desert region again opened up for exploration and settlement. As part of an effort to establish a railroad route from St. Louis to the Pacific Ocean, the U.S. government conducted a series of surveys between 1853 and 1855 to identify feasible routes. Lieutenant Amiel Weeks Whipple, a topographical engineer in the army, was assigned the task of determining the westernmost section from Arkansas to Los Angeles. Whipple passed through Mojave territory in 1854, crossing the Colorado River near present-day Needles (Rice et al., 1996). Another of the railroad survey parties, led by Lieutenant R.S. Williamson, included a young geologist, William Phipps Blake. Blake was the first to identify the Salton Trough as an ancient lakebed.

The discovery of gold in California brought a great influx of American and European settlers to the state. Between 1849 and 1860 an estimated 8,000 emigrants crossed the Colorado Desert on their way to California (Lafin 1998:10). In the 1850s, there was limited gold mining in the eastern Colorado Desert.

Significant economic development of the Colorado Desert region began in the 1870s and continued into the 20th century. Development was dependent largely on two things: transportation and water. The first of these came in 1872, with the construction of the Southern Pacific Railroad from Los Angeles to present-day Indio and, eventually, Yuma. The early townsite of Indio, the mid-point between Los Angeles and Yuma, was created to provide living quarters for train crews and railroad workers. The first trains ran on May 29, 1876 (Pittman, 1995:36). The Southern Pacific continued east, paralleling an 1857 road along the eastern side of the Salton Trough. Railroad stops were built at Walters (now called Mecca), Woodspur (Coachella), and Thermal, among others. The same large dunes that had hindered Anza's expedition hindered construction of the railroad. The Southern Pacific Railroad was finally forced to build along the eastern edge of what came to be known as the Imperial Sand Dunes. Railroad sidings in the area with names such as Glamis, Amos, and Ogilby developed into small company towns. The second transcontinental railroad was completed when the Southern Pacific and the Atchison, Topeka, and Santa Fe railroads were linked at Deming in New Mexico Territory on March 8, 1881, providing settlers relatively quick and easy access to the region. The citizens of Imperial Valley petitioned the Southern Pacific Company to build a branch line south, connecting the valley to the main Southern Pacific Railroad. In 1903, the line had been completed from Old Beach (Niland) to Imperial. By 1904, the line had been extended to Calexico.

In 1891, the California Irrigation Company, which later became the California Development Company, was formed to transport water from the Colorado River to the Salton Sink. The town of El Centro was laid out in 1900, by developer W.F. Holt. Holt bought up large blocks of stock in the Imperial water companies from the California Development Company. Construction of the first canals began in 1900, allowing much of Imperial Valley to develop as a farming community. The 70-mile-long Alamo Imperial Canal was completed on May 14, 1901. By April 3, 1902, 400 miles of irrigation ditches had been dug to irrigate 100,000 acres of potential crop land. During this time the name of the lower basin was changed from the Salton Sink to the Imperial Valley. Before construction of Boulder Dam between 1930 and 1936 (renamed Hoover Dam in 1947), a single day's water supply for the Imperial Valley "contained enough silt to make a levee 20 feet high, twenty feet wide, and one mile long" (Lafin 1998:14). The canal system quickly became clogged, and dredging the system was difficult and expensive. The California Development Company did not have the financial resources to keep the system clear. In 1905, construction of a new control gate began, coinciding with unusually heavy floods and a change in the course of the Colorado River. The river overflowed its banks, flooding the Salton Basin and forming the Salton Sea. The California Development Company was bankrupted.

The Imperial Irrigation District (IID) was formed in 1911 under a state charter to acquire properties of the bankrupt California Development Company. By 1922, the IID had acquired 13 water companies. The All-American Canal was built to replace the Alamo Imperial Canal. The All-American Canal is part of the Hoover Dam complex, and its 82-mile length extends from Imperial Dam about 20 miles northeast of Yuma to the Imperial Valley. Approval to construct the canal came from the Boulder Canyon project Act in 1928. The All-American Canal was constructed through the 1930s, and the first water flowed into Imperial Valley in 1940. By 1942, the All-American Canal was the sole source of imported water for the Imperial Valley. When World War II broke out, the desert area of Imperial Valley had gone from being infrequently visited by Anglo-Americans to being settled and farmed by them.

Early agriculture in Imperial Valley was devoted to the production of alfalfa, dairying, and raising hogs. During this period towns were established in Imperial Valley, including Brawley (1908), Westmorland (1910), Niland (1913) and Calipatria (1914). By the 1930-1940s, varied crops were cultivated such as cantaloupes, citrus, grapes, wheat, beets, asparagus, and cotton. Many farms evaluated in this report were constructed during this time. The design of the residences was vernacular in nature and built to endure the extreme heat in the summer. The large-screened front porches and sleeping rooms provided respite from the hot interior of the houses during the evening. Many of the farms were planted with trees, and specifically palm trees, to provide not only shade but also as identification of one's residence on the flat landscape.

Many roads were named after prominent citizens either living on or near the roads. Lack Road was likely named for Eugene S. Lack and Fred Lack, both prominent businessmen in Brawley, engaged in the automobile business and later in real estate and insurance business as Lack & Hurley. Other references to the Lack family in the area occur from 1917 until 1960. Hooper Road was named for Clyde O. Hooper immigrated to the area in 1916 and established a ranch in the 1930s. Mr. Hooper was also active in Farm Bureau work, serving as the first vice president of the California Farm Bureau. Other references to Hooper occur until 1951 (Henderson, 1968:211).

Today, there are 3,000 miles of irrigation and drainage canals serving 500,000 acres of cultivated land in Imperial Valley and its cities and towns, yielding nearly \$1 billion in crops (www.imperial.cc.ca.us). The advent of air conditioning, coupled with low utility rates, have drawn industry to the area. Geothermal power, aerospace, manufacturing, and agriculture now dominate the landscape in Imperial Valley.

5.4.3.5 Contact Program

Native American

The California Native American Heritage Commission (NAHC) was contacted in 2002 as part of the original SSU6 project to identify possible sacred lands within the area. No known sacred lands were identified within the project vicinity. The NAHC provided a list of Native American contacts that might have an interest or concern regarding the proposed project, all of whom were notified by letter regarding the project and their concerns and/or knowledge of resources in the area were solicited. These included representatives of the Ewiiapaayp Tribal Office, La Posta Band of Mission Indians, Manzanita Band of Mission Indians, Campo Band of Mission Indians, Kumeyaay Cultural Heritage Preservation Program, and Fort Yuma Indian Reservation-Quechan Tribe.

On September 8, 2008, Project cultural resources specialists submitted an updated request for a Sacred Lands File search to see whether additional sites had been added to the file since the original SSU6 project. The file search indicated cultural resources were located within the search area and provided a list of Native American contacts. Letters were sent to individuals listed on the NAHC contact list (Table 5.4-3). To date, four responses have been received. Copies of letters sent to Native American contacts are included in Attachment 3 of Appendix G, and the results of the contact effort are summarized in Table 5.4-3.

The four responses received from Native Americans are summarized in the following paragraphs. At the request of Bridget Nash-Chrabascz, Tribal Historic Preservation officer (THPO) for the Quechan Indian Nation, Project cultural resources specialists contacted the Quechan Indian Nation regarding a Tribal monitor for the survey on November 3, 2008. On November 4, 2008, Ms. Nash-Chrabascz indicated that a

Tribal monitor would not be able to accompany the survey crew during field investigations and requested that the tribe be informed of any results of field investigations. Ms. Nash-Chrabaszcz was contacted on November 6, 2008 and informed that no prehistoric cultural resources had been identified in the area.

Preston Arrowweed, a Native American researcher the NAHC identified as the most likely descendant was also contacted regarding sacred lands near the Project site, namely the Black Butte obsidian source. Mr. Arrowweed was contacted on November 24, 2008 and indicated that contact with the Quechan Indian Nation was sufficient and that no further consultation with him was necessary.

Carmen Lucas of the Kwaayamii Laguna Band of Mission Indians was contacted by telephone on December 10, 2008 to see if she had any questions or comments about the Project. Ms. Lucas asked if any other Native American individuals or groups had been contacted and Mr. Tennyson said that the Quechan as well as Preston Arrowweed had been contacted. Ms. Lucas stressed the importance of the area and requested a Native American monitor be present for all ground disturbing activities, especially because the Obsidian Butte is an area of concern. According to Ms. Lucas, a monitor from Quechan or the Kumeyaay would be appropriate for this work. Ms. Lucas also asked that the cultural landscape be taken into account when considering traditional cultural resources related to the Project. She noted that even though there has been much disturbance in the area, preserving the cultural landscape is still important. Finally, she also expressed a wish that Obsidian Butte be put on the National Register of Historic Places and indicated that she would be glad to assist in any way if it were to be listed.

Historical Society

On September 22, 2008 a letter describing the Amended Project, a map and a response form were sent to Lynn Housouer at the Pioneer Museum in Imperial, California. To date no response has been received.

5.4.3.6 Pre-field Research

Records Search

Archival research was conducted to encompass the areas required under CEC siting regulations; the archival research included a record search (Attachment 2 of Appendix G) through the Southeastern Information Center (SEIC) at the Imperial Valley College Desert Museum. Information regarding previously conducted studies and site records were obtained for a study area that was defined by a one-mile radius around the facilities and within 0.5-mile (0.25-mile either side) of the pipelines. As noted above, in addition to the SEIC records search, the NAHC was contacted to determine if any sacred lands were located near the Project area.

Table 5.4-3 Native American Contacts

Name/Title	Affiliation	Date/Type of Contact	Response
Leroy J. Elliott, Chairperson	Manzanita Band of the Kumeyaay Nation	09/23/2008 Letter	To date no response
		12/10/08 Telephone	No answer. Left a message.

Table 5.4-3 Native American Contacts

Name/Title	Affiliation	Date/Type of Contact	Response
Monique LaChappa, Chairperson	Campo Kumeyaay Nation	09/23/2008 Letter 10/22/08 Response Form	Ms. La Chappa returned a response form asking that the mailing list be updated. She also indicated that she had no comments.
Joseph Hamilton, Chairperson	Ramona Band of Cahuilla Mission Indians	09/23/2008 Letter 12/10/08 Telephone	To date no response No answer. Left a message.
Raymond Torres, Chairperson	Torres-Martinez Desert Cahuilla Indians	09/23/2008 Letter 12/10/08 Telephone	To date no response No answer. Left a message.
Paul Cuero	Kumeyaay Cultural Heritage Preservation	09/23/2008 Letter	To date no response
Carmen Lucas	Kwaaymii Laguna Band of Mission Indians	09/23/2008 Letter 12/10/08 Telephone	To date no response Ms. Lucas asked if anyone had been contacted and Mr. Tennyson said that the Quechan as well as Preston Arrowweed had been contacted. Ms. Lucas stressed the importance of the area and requested a Native American monitor be present for all ground disturbing activities. A monitor from Quechan or the Kumeyaay would be appropriate. Obsidian Butte was identified as an area of concern. Ms. Lucas also asked that the cultural landscape be taken into account when considering traditional cultural resources related to this project. She noted that there has been much disturbance in the area, but that it is still important. Ms. Lucas also expressed a wish that Obsidian Butte be put on the National Register of Historic Places and that she would be glad to assist in any way if it were to be listed.
Michael Garcia, Vice-Chairman/	Ewiiapaayp Tribal Office	09/23/2008 Letter	To date no response.

Table 5.4-3 Native American Contacts

Name/Title	Affiliation	Date/Type of Contact	Response
EPA Director		12/10/08 Telephone	No answer. Left a message.
Nick Elliott, Cultural Resources Coordinator	Manzanita Band of the Kumeyaay Nation	09/23/2008 Letter 12/10/08 Telephone	To date no response Mr. Elliot was not available. Asked that we call back.
Bridget Nash- Chrabascz, Tribal Historic Preservation Officer	Quechan Indian Nation	09/23/2008 Letter 10/29/2008 Telephone 10/30/2008 Telephone 11/3/2008 Telephone 11/4/2008 Telephone 11/6/2008 Telephone	Ms. Nash-Chrabascz requested a phone call and Tribal monitor. No answer. Left a message. No answer. Left a message. Ms. Nash-Chrabascz indicated that the Tribe would like a monitor on the survey. Ms. Nash-Chrabascz said that the monitor would not be available. She asked that she be notified of the survey results. Ms. Nash-Chrabascz was notified that no prehistoric sites were identified by the survey
Preston Arrowweed	Native American researcher the NAHC identified as the most likely descendant	11/24/08 Telephone	Mr. Arrowweed indicated that the Quechan Tribe should be the contact for the project and that no further consultation with him was necessary.

Research for the historic resources survey involved a review of historic USGS Topographical Maps (Obsidian Butte, Niland; 1957) and historic site inventories included in previous studies (CEC 2002). Additionally, the regional Pioneer Museum was contacted for information pertaining to specific site and regional history. Review of local histories and photographs yielded some information pertaining to the Vail Ranch and regional history.

Previous Surveys

The records search identified two previous cultural resources investigations that are within the record search limits (Table 5.4-4). These studies were performed for geothermal energy projects.

Table 5.4-4 Previous Surveys within Records Search Limits

Author and Date	Title	NADB Number
County of Imperial Department of Planning (1979)	49 Megawatt Geothermal Power Plant & Facilities Niland Area	1100183

5.4 Cultural Resources

Author and Date	Title	NADB Number
Werlhof, Jay Von (1979)	Letter to Magma Power Company Salton Sea Geothermal Area	1100636

Previously Recorded Sites

The records search identified four cultural resources within the one-mile records search limits for the Amended Project (footprint plus buffer for the plant site, three offsite well pads and associated pipelines, and a borrow area), along with the 0.5-mile records search limits for linear facilities) (Table 5.4-5). One of these resources is Obsidian Butte, an obsidian source originally recorded by Malcolm Rogers (CA-IMP-452).

Table 5.4-5 Previously Recorded Cultural Resources within Records Search Limits

Primary Number (P-13-)	Trinomial (CA-IMP-)	Site Type	Site Constituents	Time Period
000452	452	Obsidian Butte	Obsidian quarry	Prehistoric
	3254H	Salt source	Salt deposit – destroyed	Historic
	3255/H	Salt source	Salt pond	Prehistoric/Historic
	6638	Lithic scatter	Obsidian flakes and hammerstone	Prehistoric

In addition to the surveys and resources identified by the records search, previous studies conducted for the original SSU6 project included a survey of the plant site which identified no cultural resources there.

5.4.3.7 Field Studies

A cultural resource inventory of the Amended Project APE was conducted in November and December 2008, as described below. Surveys covered both archaeological and built resources. Survey transects averaged 50 feet spacing. A 200-foot buffer around the plant site, offsite well pads and borrow area, and a 210-foot corridor along the pipelines (110-foot right-of way and a 50-foot buffer either side) comprise the archaeological resources APE. For built resources, the APE extended 0.5 mile around the Project elements.

Plant Site and Buffer

The plant site buffer is a 200-foot area located around the 160-acre agricultural field that will be the plant site. The area is level and has been graded, cultivated, and heavily disturbed. There are nine existing geothermal power plants within approximately two miles of the Amended Project plant site.

The plant site and 200-foot buffer area were surveyed using systematic pedestrian transects. Ground visibility was excellent. In the northwest corner of the buffer area, unmodified fragments of obsidian were identified in a disturbed area (a dirt berm). The survey identified an approximately a 2,400-foot segment of Vail Lateral 4-A that parallels the eastern side of the plant site (Table 5.4-6).

Table 5.4-6 Newly Identified Cultural Resources

P-Number/Trinomial or Temporary Number	Description	Site Type	Date
	Vail Lateral 3-A	Concrete-lined lateral	20th century
	Vail Lateral 4	Concrete-lined lateral	20th century
	Vail Lateral 4-A	Concrete-lined lateral	20th century

Vail Lateral 4-A

The Vail Lateral 4-A is an open, concrete-lined, trapezoidal shaped channel with flowing water. The walls are poured slab concrete with a smooth finish. The canal has a top width of 10 feet 3 inches, a bottom width of approximately two feet, and a depth of approximately four feet. A 1.4 mile segment of the lateral is located within the survey limits for the Amended Project. This segment of the canal contains a contractor's stamp that reads "GRANITE CONST CO 2003" and nine sluice gates. Four of these gates are labeled "VAIL 4-A", and divide the canal into sections that correspond with intersecting roads. The other five sluice gates are labeled "455", "457", "459", "460", and "461-A".

Injection Well Pads and Pipelines

The Amended Project's injection well pads and pipelines are located south and east of the plant site adjacent to roads and within agricultural fields. These areas are level and have been graded, cultivated, and heavily disturbed. The records search indicated that no previous archaeological studies have been conducted within the proposed well pad areas and no previously recorded sites are on or adjacent to the subject lands.

Three proposed injection well pads and three pipeline corridors were surveyed using systematic pedestrian transects. Ground visibility was good to excellent. Three laterals, Vail Lateral 3-A, 4, and 4-A were recorded within the survey limits (Table 4.5-6).

Vail Lateral 3-A

This 900-foot segment of the Vail Lateral 3-A is an open, concrete-lined, trapezoidal shaped channel with flowing water. The canal walls are poured slab concrete with a smooth finish. The lateral has a top width of 10 feet 3 inches, a bottom width of approximately two feet, and a depth of approximately four feet. This segment contains a date stamp that reads "1949" and two sluice gates. One of these gates is labeled "VAIL 3-A" and divides the lateral into sections that correspond with an intersecting road. The other sluice gate is labeled "367."

Vail Lateral 4

The Vail Lateral 4 is an open, concrete-lined, trapezoidal shaped channel with flowing water. The walls are poured slab concrete with a smooth finish. The slabs range between 93 inches and 114 ½ inches in length. Three segments of this lateral are in the Amended Project area.

5.4 Cultural Resources

Segment 1 is 3,490 feet long. Its northern point is southwest of the intersection of Gentry Road and Kuns Road. It contains a contractor's stamp that reads "MERRILL 1993" and two sluice gates. One of these gates is labeled "VAIL 4" and divides the canal into sections that correspond with intersecting roads. This segment of the canal is 14 feet 4 inches wide, and has a bottom width of approximately two feet, and a depth of approximately four feet. The other sluice gate is labeled "415" and leads to an east-west trending unnamed irrigation canal that is 18 feet to the west. This lateral is constructed similarly to the Vail Lateral 4-A canal, and has small wall sluice valves in its north wall for allowing water to drain into the adjacent agricultural fields.

Segment 2 is 200 feet long. This segment's southern most point is a quarter mile south of the intersection of Gentry Road and McNerney Road, at an unnamed dirt road that accesses the existing plant to the west. It has a contractor's stamp that reads "RYERSON 1992." This segment of the canal is 11 feet 4 inches wide, and has a bottom width of approximately two feet, and a depth of approximately four feet. The exact bottom width and depth measurements were difficult to obtain as the canal had flowing water in it.

Segment 3 is 150 feet long. This segment's southern most point is 60 feet north of McNerney Road (McNerney Road is incorrectly labeled with a sign that says "McKendry Road"). This segment has a contractor's stamp that reads "RYERSON 1992" and two sluice gates. One of these gates is labeled "VAIL 4" and divides the canal into sections that correspond with intersecting roads. The portion of this segment of the canal that is just north of McNerney Road is 13 feet 9 inches wide (this portion includes the sluice gate marked "419") and ends at the sluice gate and measures 49 feet in length. The remainder of this segment measures 9 feet 7 inches in width. It has a bottom width of approximately two feet and a depth of approximately four feet. The exact bottom width and depth measurements were difficult to obtain as the canal had flowing water in it. The other sluice gate is labeled "419" and leads to an east-west trending unnamed irrigation canal that is 18 feet to the west. This canal is constructed similarly to other lateral canals in the area and has small wall sluice valves in its north wall for allowing water to drain into the adjacent agricultural fields.

For a description of Vail Lateral 4-A see above subsection titled "Plant Site and Buffer".

Borrow Site

The borrow site is an approximately 34-acre area to the southeast of the plant site. The western portion of the borrow site is an agricultural field. The remainder of the borrow site is disturbed and contains modern debris. Surveys did not identify any cultural resources at the proposed borrow site.

Discussion

The canal system throughout the Imperial Valley resulted from extensive efforts to divert water resources from the Colorado River into the Colorado Desert. First recognized in the 1850s, the Salton Sink basin was once a natural lake with a variety of alluvial soil types. During the latter half of the 19th century, speculators and engineers attempted to plan a gravity flow canal to irrigate the barren valley for agricultural purposes. Prior to the canal system, there was no potable water for centuries.

The California Development Company succeeded in building the 70-mile Alamo Canal and diverting water into the canal in 1901. The company built the distribution systems for the majority of the region in the 1900s. By 1905, the company had built 80 miles of main canals in Imperial and Mexicali Valleys, and 700

miles of distribution canals (Dowd, 1956). The original canals were earthen trenches with wood head gates. With the development of the canal system, agricultural development was rapid. From no population in 1900 to approximately 14,000 people and 100,000 irrigated acres in 1905, the canal system faced water shortages and was continually expanding (Dowd, 1956).

Combined problems of silt and unexpected winter floods, resulted the failure of the canal gates and the entire flow of the Colorado River entering the canal system from 1905 to 1907. This break allowed floods to substantially enlarge the New River and Alamo River and flow through Imperial Valley to create the Salton Sea. The flooding destroyed significant flumes and channels in the canal system, railroad spurs, and approximately 13,000 acres of irrigable land (Dowd, 1956). The break was repaired in 1907, and over the course of the following decade, the canal system was fortified with concrete gates, flumes, enlarged main canals, and a new levee system. In addition to these major improvements, a number of minor canals were installed.

The Imperial Irrigation District (IID) was formed in 1911 to operate the bankrupt California Development Company and its subsidiaries with a base of nearly 500,000 irrigable acres. After 1929, the IID needed to expand the canals with a lateral drain system, providing outlets on individual farms per every 160 acres (Dowd, 1956). The IID worked with individual landowners to develop drains, providing survey and engineering services. Many of these drains were lined with tile.

The Vail Canal was constructed just south of the Salton Sea, between the Alamo River and the New River on land owned by the Vail family from around the 1910s. The laterals in this study likely date to the period of drainage expansion in the late 1920s and 1930s. The modern concrete linings of the canals appear to be infrastructure improvements dating from 1949 to the present.

5.4.4 Environmental Impacts

CEQA requires that the significant impacts to archaeological or historical resources be determined. A cultural resource is considered “historically significant” under CEQA if the resource meets the criteria for listing in the California Register of Historical Resources (CRHR). The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. Resources already listed or determined eligible for the NRHP or the California Historic Landmarks 770 or higher are also by definition eligible for the CRHR. For a resource to be eligible for the CRHR, it must satisfy the following standards:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Is associated with the lives of persons important in our past; or
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A project is considered to have a significant impact to the environment if it causes a substantial adverse change in the significance of a historical resource. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

Impacts to identified cultural resources must be considered if the resource is an important or “unique archaeological resource” under the provisions of CEQA Sections 15064.5 and 15126.4 and the eligibility criteria, or if the resource is a historic property as defined in the NHPA and its implementing regulations. Determination of a resource’s eligibility can be made through research and archaeological testing.

Three laterals have been identified within the project APE. These resources are potentially significant for their associations with the agricultural development of the region. However, the laterals will not be impacted by the project.

5.4.4.1 Construction and Operation

Construction-related impacts to cultural resources would be associated primarily with ground disturbance or changes to the setting of the resource(s). Three manmade laterals (Vail Laterals 3-A, 4, and 4-A) were identified within portions of the Amended Project area. Construction activities will avoid these resources. Project operations also would not impact the three laterals identified during the field work for the Amended Project. In short, the Amended Project would have no impacts on known cultural resources.

5.4.4.2 Cumulative Impacts

Because the Amended Project would not impact cultural resources, it has no potential to contribute to less-than-significant or significant adverse cumulative cultural resources impacts. In addition, like the Amended Project, other projects proposed in the Project area would be required to comply separately with LORS intended to protect cultural resources.

5.4.5 Mitigation Measures

Cultural Resources mitigation measures are embodied in the CEC’s Conditions of Certification (COC) for the original project. These COC have been adopted and modified by the Applicant to make them appropriate for the Amended Project in the following section.

5.4.6 Conditions of Certification

Following are the cultural resources Conditions of Certification (COC) adopted by the Commission for the original SSU6 project. Applicant-recommended deletions to the Conditions are shown by ~~striketrough~~. Additions and revised text are shown in *italics*. COCs CUL-8 and CUL-9 apply to the transmission lines only, and as the transmission lines are already licensed and the Amended Project does not propose changes to them, the transmission lines are not included in the Amendment Petition.

The Applicant recommends deletion of CUL-10, which requires an ethnographic study emphasizing Obsidian Butte. The original project included a production well and pipeline that potentially directly impacted cultural resources at Obsidian Butte. These facilities have been relocated to the plant site, and as the

Amended Project will no longer impact the Obsidian Butte area and its cultural resources, this ethnographic study is not needed.

CUL-1 Prior to the start of ground disturbance, the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternates, if alternates are needed, to manage all monitoring, mitigation and curation activities. The CRS may elect to obtain the services of Cultural Resource Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation and curation activities. The project owner shall ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR). No ground disturbance shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM.

Cultural Resources Specialist

The resume for the CRS and alternate(s) shall include information demonstrating that the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61 are met. In addition, the CRS shall have the following qualifications:

1. The technical specialty of the CRS shall be appropriate to the needs of the project and shall include, a background in anthropology, archaeology, history, architectural history or a related field; and
2. At least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California; and
3. The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects, and demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction and operation. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed CRS or alternate has the appropriate training and background to effectively implement the conditions of certification.

Cultural Resources Monitor

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
2. an AS or AA degree in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.

Cultural Resources Technical Specialists

The resume(s) of any additional technical specialists, e.g. historic archeologist, historian, architectural historian, physical anthropologist; shall be submitted to the CPM for approval.

Verification: The project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval at least 45 days prior to the start of ground disturbance.

At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRM, at least five days prior to the CRM beginning on-site duties. At least 10 days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

At least 10 days prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions of certification.

CUL-2 Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and in consultation with the CRS approve those that are appropriate for use in cultural resources planning activities.

If construction of the project would proceed in phases, maps and drawings, not previously provided, shall be submitted prior to the start of each phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

At a minimum, the CRS shall consult weekly with the project construction manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

Verification: The project owner shall submit the subject maps and drawings at least 40 days prior to the start of ground disturbance. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

If there are changes to any project related footprint, revised maps and drawings shall be provided at least 15 days prior to start of ground disturbance for those changes.

If project construction is phased, if not previously provided, the project owner shall submit the subject maps and drawings 15 days prior to each phase.

A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and also provided in each Monthly Compliance Report (MCR).

The project owner shall provide written notice of any changes to scheduling of construction phases within five days of identifying the changes.

CUL-3 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by the CRS, to the CPM for approval. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures.

1. A proposed general research design that includes a discussion of research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required.
2. The following statement shall be added to the Introduction: Any discussion, summary, or paraphrasing of the conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be a discrepancy between the conditions and the way in which they have been summarized, described, or interpreted in the CRMMP, the conditions, as written in the Final Decision, supersede any interpretation of the conditions in the CRMMP. (The Cultural Resources Conditions of Certification are attached as an appendix to this CRMMP.)
3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground disturbance, construction, and post-construction analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.
5. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
6. A discussion of all avoidance measures (such as flagging or fencing), to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures would be implemented prior to the start of construction and how long they would be needed to protect the resources from project-related effects.
7. A discussion of the requirement that all cultural resources encountered shall be recorded on a DPR form 523 and mapped (may include photos). In addition, all archaeological materials collected as a result of the archaeological investigations (survey, testing, and data recovery) shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The

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public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.

8. A discussion of any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding shall be met. If archaeological materials are to be curated, the name and phone number of the contact person at the institution. This shall include information indicating that the project owner will pay all curation fees and state that any agreements concerning curation will be retained and available for audit for the life of the project.
9. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.
10. A discussion of the proposed Cultural Resource Report (CRR) which shall be prepared according to Archaeological Resource Management Report (ARMR) Guidelines.

Verification: The project owner shall submit the subject CRMMP at least 30 days prior to the start of ground disturbance. Per ARMR Guidelines the author's name shall appear on the title page of the CRMMP. Ground disturbance activities may not commence until the CRMMP is approved, unless specifically approved by the CPM. A letter shall be provided to the CPM indicating that the project owner would pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, and data recovery).

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, Department of Parks and Recreation (DPR) 523 forms and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

Verification: The project owner shall submit the subject CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the SHPO, the CHRIS and the curating institution (if archaeological materials were collected).

CUL-5 Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment. The training may be presented in the form of a video. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;
3. Information that the CRS, alternate CRS, and CRMs have the authority to halt construction to the degree necessary, as determined by the CRS, in the event of a discovery or unanticipated impact to a cultural resource;

4. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery, and shall contact their supervisor and the CRS or CRM; and that redirection of work would be determined by the construction supervisor and the CRS;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. An acknowledgement form signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.
8. No ground disturbance shall occur prior to implementation of the WEAP program, unless specifically approved by the CPM.

Verification: The project owner shall provide in the Monthly Compliance Report the WEAP Certification of Completion form of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-6 The project owner shall ensure that the CRS, alternate CRS, or CRMs shall monitor ground disturbance full time in the vicinity of the project site, linear facilities and ground disturbance at laydown areas or other ancillary areas to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter or e-mail providing a detailed justification for the decision to reduce the level of monitoring shall be provided to the CPM for review and approval prior to any reduction in monitoring.

CRMs shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.

The CRS and the project owner shall notify the CPM by telephone or e-mail of any incidents of non-compliance with the conditions of certification and/or applicable LORS upon becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these conditions of certification.

A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered or disturbed. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area to be monitored.

Verification: During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter or e-mail identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval. Documentation justifying a reduced level of monitoring shall be submitted to the CPM at least 24 hours prior to the date of planned reduction in monitoring.

During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM.

Within 24 hours of recognition of a non-compliance issue with the conditions of certification and/or applicable LORS, the CRS and the project owner shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance. In the event of any non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.

One week prior to ground disturbance in areas where there is a potential to disturb or discover Native American artifacts, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. The project owner shall also provide a plan identifying the proposed monitoring schedule and information explaining how Native Americans who wish to provide comments will be allowed to comment. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

CUL-7 The project owner shall grant authority to halt construction to the CRS, alternate CRS and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), a recommendation of eligibility and recommendations for mitigation of any cultural resources discoveries whether or not a determination of significance has been made.
2. The CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
3. Any necessary data recovery and mitigation has been completed.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS and CRMs have the authority to halt construction activities in the vicinity of a cultural resource discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 A.M. on Friday and 8:00 A.M. on Sunday morning.

CUL-8 If a federal action requires Section 106 Compliance, the project owner shall ensure that a copy of the right of way grant and copies of correspondence from the Bureau of Land Management (BLM) to the project owner are provided to the CPM.

Verification: Within two weeks of the granting of the right of way by the BLM, copies of the right-of-way grant shall be provided to the CPM. Within two weeks of the project owner receiving correspondence from the BLM regarding the right of way, the project owner shall provide copies of the correspondence to the CPM. *(Applicable to transmission lines only; transmission lines are not included in Amendment Petition.)*

CUL-9 Prior to ground disturbance in the affected locations, the project owner shall ensure that a cultural resources survey is completed for proposed transmission tower locations L13, L14, and SB2 and any additional laydown or construction areas, or access roads that are necessary for construction of these transmission towers. The survey shall extend to 50 feet on each side of the center line of proposed linear facilities and shall include a 100 foot circumference around the proposed transmission tower locations.

If archeological deposits or human remains are identified within any of these areas, the project owner shall provide plans that ensure the archaeological deposit or human remains are avoided. If the location of the transmission towers, laydown or construction areas or access roads can not be modified to avoid archeological deposits, then the project owner shall determine whether the deposits are eligible for the CRHR and shall provide a report evaluating the deposit to the CPM for review and approval. If an eligible archeological deposit or human remains are identified in any of these areas, the project owner shall develop and implement prior to ground disturbance, mitigation measures approved by the CPM.

Verification: At least 30 days prior to ground disturbance in the area of L13, L14, and SB2 or any associated laydown or construction areas or access roads, the project owner shall submit a cultural resource survey report for the transmission towers and ancillary areas to the CPM for review and approval. If any archeological deposits are identified in the locations of the towers and ancillary areas, then an evaluation report shall be submitted to the CPM for review and approval. If an eligible archeological deposit or human remains are identified in any of these areas, the project owner shall develop and implement CPM approved mitigation measures, prior to ground disturbance. *(Applicable to transmission lines only; transmission lines are not included in Amendment Petition.)*

CUL-10 ~~The project owner shall ensure that a cultural anthropologist meeting the Secretary of Interior's Standards prepares a study of the ethnographic area that contains the Amended Salton Sea Unit 6 Project for review and approval by the CPM. After permitting, the project owner shall provide a Scope of Work (SOW) to the CPM identifying aspects of the ethnographic study for review and approval. The SOW may identify additional individuals or groups that shall be included in the consultation. The scope of the study will focus on the area of the project with an emphasis on Obsidian Butte. Consultation shall be with the Cahuilla, Fort Mohave, and Quechan Tribes and other interested groups as identified through the consultation with the Native American Heritage Commission. The report shall also provide a cultural~~

background documenting the importance of Obsidian Butte, a record of the resource including boundaries, and recommendations for eligibility for the CRHR and management of the resource, if applicable. Following the start of commercial operation of the power plant, the project owner shall provide a draft copy of the ethnographic study to the CPM for review and approval. The draft will be considered final upon CPM approval. Copies of the final ethnographic study shall be submitted to the CPM and other institutions agreed to by the involved Native American groups.

Verification: No later than 30 days after the start of ground disturbance, a copy of the SOW of the ethnographic study shall be submitted to the CPM for review and approval.

Within six months following the start of commercial operation of the power plant, the project owner shall provide a copy of the ethnographic study of the project area (with request for confidentiality, if needed), along with any associated maps, to the CPM for review and approval.

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